UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
HESS, DANIEL A

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/001,511	MORGANSTEIN, SANFORD J.
	Examiner	Art Unit	
	Daniel A. Hess	2876	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 November 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7-29,33-46,48,49,53-57,59,62-67 and 70-78* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7-29,33-46,48,49,53-57,59,62-67 and 70-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/22/04</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

This action is in response to 11/22/2004 amendment, which has been placed in the

electronic file of record. **See especially the 'Response to Arguments' section, below.**

Especially noteworthy sections are in italics and bold.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5, 8-11, 14-16, 18-25, 26-27, 34-37, 40-46, 48, 49, 53, 56-57, 59, 62, 65, 66, 71

and 74-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener et al. (US

6,081,793) in view of the publication, "The Caltech/MIT Voting Technology Project,"

hereinafter **VTP**.

Re claims 1, 5, 8, 27, 34, 48, 49: There is an electronic voting system (column 1, line

58). A variety of voter registration information is obtained (column 1, line 60- column 1, line

29) and stored on a smart card. This card acts as a key. This registration information is also

passed to an authentication server 225 (column 3, lines 29-31; see figure 1a). The (implied)

smart card generator generated an election key (smart card) storing information specific to each

voter. The election process is discussed (column 7, line 35 to column 8, line 20). A reader

interfaces with the election key (smart card) (column 7, line 42). As shown (column 7, line 35 to column 8, line 20) information is retrieved from the election key (smart card) such as pin number (column 7, line 47). Based on information retrieved from the key, identification may determined, and the server selects a ballot id for the particular voter. The ballot id is associated with a particular precinct (column 3, lines 19-21). It is well-known in the art that different precincts have different questions, thus questions are customized for the voter. The system also displays questions and receives interactive voter selections (column 4, lines 15-43). An encoded ballot is created in a 'cryptolope' (column 8, lines 10-18). Further, a results server (column 10, line 59) tabulates all the votes. *Challener et al. teaches (see especially figure 7, as well as column 7, line 35 to column 8, line 10) that the election key itself, that which is associated with each voter, and which is used to grant access for to voting for each voter, is encrypted. Note in figure 7, step 377, the voter ID is encrypted.* ***The system (column 7, line 50-60) "encrypts the voter identification (which may include any or all of the voter's name, address, voter registration number, social security number, driver's license number, or any other identifying data)."***

Challener fails to show that the ballots are generated in tangible form. Rather, in Challener, an encoded electronic ballot is created. Also, Challener fails to teach that the election key stores, <u>on itself</u> customized ballot questions.

VTP teaches (pages 59-64; especially page 60, left hand column under the heading "Frog Initialization") customized questions, i.e. "which races and candidates are to be presented to the voter." Second, a tangible ballot will exist following the process: see page 62, first column: a tangible audit trail is described, where physical objects are stored in a box.

In view of VTP's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known paper ballot as taught by VTP in addition to the electronic ballot of Challener because the tangible record can act as a backup and help infuse population with a high degree of confidence in the system.

Note that VTP's tangible ballot may be an electronic data-bearing record, and as such, it can carry the same kinds of information as Challener et al.'s electronic ballot. As far as the tangible ballot being human-readable, VTP teaches (page 60, right-hand column) that the tangible ballot could include a paper ballot.

Claims 7 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener as modified by VTP.

As VTP teaches (page 62, 2nd column) paper frogs can contain a 2D barcode.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the old and well-known bar code storage means for the chip data storage means on the card of Challener because bar codes are cheaper to manufacture than chip cards.

[Although the Examiner is not changing this original rejection, the examiner further notes that VTP's paper ballot is bar-coded (figures 1 and 4).]

Re claims 9 and 15: A voting record/ballot is linked to a particular computing device through an id: the 'public key of the journal server' (column 8, line 15).

Re claims 10, 16 and 36: This digital signature particular to the voter's precinct is the ballot id referred to re claim 1 above.

Re claims 11, 37 and 53: There is (column 4, line 39) a touch screen.

Re claims 14 and 40: As Challener shows (column 7, lines 40-55) the pin number stored on the key and a voter-entered pin number are compared.

Re claim 17: A voter id (column 8, line 28) is present (i.e. as opposed to voter's name etc.).

Re claims 18, 41, 43 and 56: The determination of a properly filled-out ballot is understood and implicit in the term 'completes the ballot' (column 8, lines 9-12). The phrase 'encrypts the completed ballot' implies that the user must *complete* the ballot first.

Re claim 19: The system involves 'using the voter's PC' (column 8, line 12). It is understood in the art that a PDA is a scaled down version of a PC for most operations that aren't computationally or graphically out of range of a PDA.

Re claims 20-24, 42, 44 and 45: The Challener invention includes 'all the functions associated with the tabulation of the votes' (column 10, lines 57-60). This would include auditing specific questions. Also, re 21-24 particularly, see (column 10, lines 50-68) the intereactions of the results server and the journal server.

Re claims 25 and 66: VTP teaches (page 63, left column) a system within the electronic voting sequence permitting the voter to verify selections.

In view of VTP's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known selection verification means as taught by VTP into the teachings of Challener because a voter could well make a mistake.

Re claims 26, 46 and 57: A keyboard 16 is available (column 4, lines 27-29). In keeping with election laws dictating the write-in option, it is implied that the system would have to make available this option.

Re claim 35: VTP teaches (page 61, under the heading "vote recording") that "each vote casting machine displays the number of votes it has signed."

In view of VTP's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known tabulation of votes within memory at each voting station as taught by VTP in the teachings of Challener because such tabulation can be useful for such things as exit polling, and further facilitates the final counting of all votes, since a subset of all votes will be counted.

Re claims 59, 65, 67 and 74: As VTP teaches (page 62, 2nd column) paper "frogs" can contain a 2D barcode.

In view of VTP's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known machine readable barcode means as taught by VTP on paper ballots of Challener as modified by VTP because otherwise tallying of paper ballots is laborious.

Re claims 62 and 71: Challener has (column 4, lines 39-40) a touch-screen option.

Re claim 70: VTP shows results tabulated in the voter terminal and again in the urn, for redundancy, as discussed re claim 1 above.

Re claims 75-78: VTP discusses the use of paper 'frogs' which include human readable/printed material (page 62).

In view of VTP's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known human readable portions of an electronic ballot in order to facilitate human auditing.

Claims 2 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener as modified by VTP as applied to claim 1 above, and further in view of Walter et al. (US 5,992,570). The teachings of Challener as modified by VTP have been discussed above.

Challener fails to show that the voter enters a signature that is stored in electronic form.

As Walter shows (column 3, lines 64-67; figure 1, 26) a signature pad used for supermarket credit / debit credit validation obtains a digital signature.

In view of supermarket credit card systems, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known digital signature validation system taught by supermarket credit card system in the teachings of Challener because this makes the voting process more secure by adding an additional security measure to fight fraud.

Claims 3 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener as modified by VTP as applied to claim 1 above, and further in view of Drexler et al. (US 5,412,727). The teachings of Challener as modified by VTP have been discussed above.

Challener fails to show verification of voters by biometric means.

Drexler shows (column 2, lines 29-51) verification of voters using biometric means.

In view of Drexler's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known biometric verification of voters as taught by Drexler in the teaching of Challener because this added security measure can help to inhibit voter fraud and is not easily mimicked.

Claims 12, 13, 38, 39, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Challener as modified by VTP as applied to claim 1 above, and further in view of McClure et al. (US 6,250,548). The teachings of Challener as modified by VTP have been discussed above.

The use of instructions, in text on the screen is implied, the minimal instructions being which instructions will cast a vote for which candidate. Any screen that shows such information can be called a help screen.

Challener fails to either language selection or text-to-speech capability.

McClure shows (see excerpt, 2nd page) language selection in electronic voting. McClure further shows (abstract, line 25) text-to-speech assistance of voters.

In view of McClure's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known language selection or text-to-speech assistance as taught by McClure in the help/information text or screens of Challener because this allows more universal access, toward the democratic goal of maximizing voter participation.

Claims 63, 64, 72 and 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Challener as modified by VTP and McClure as applied to claim 13 above, and further in view of Willard (US 5,821,508). Challener as modified by VTP and McClure have been discussed above.

Re claims 63 and 72: Challener as modified by VTP and McClure fails to show determining the intent of the voter via time-proximity.

Willard teaches (abstract) "a button on a hand-held device" in conjunction with audio selections, which suggests a time-proximity component is needed, since there is only one source of input.

In view of Willard, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known time-proximity-based voting with a single button because a blind person might have trouble with many buttons.

Re claim 64 and 73: Challener shows (column 4, lines 35-40) the option of using the mouse as a backup system, in addition to a touch screen.

Challener as modified by VTP and McClure fails to show the reviewing option.

Willard teaches (column 9, lines 7-30) that a user receives auditory reviewing instructions.

In view of Willard's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known auditory reviewing instructions as taught by Willard in the teachings of Challener as modified by VTP and McClure because this may help prevent a blind person from making voting errors.

Response to Arguments

Applicant's arguments filed 11/22/2004 have been fully considered but they are not persuasive. In particular, the applicant has argued that Challener et al., of record, fails to teach a system whereby there is a digital signature used to ensure that the contents stored on the election key have not been modified.

The examiner disagrees and observes that Challener et al. teaches (see especially figure 7, as well as column 7, line 35 to column 8, line 10) that the election key itself, that which is associated with each voter, and which is used to grant access for to voting for each voter, is encrypted. Note in figure 7, step 377, the voter ID is encrypted. **The system (column 7, line 50-60) "encrypts the voter identification (which may include any or all of the voter's name, address, voter registration number, social security number, driver's license number, or any other identifying data)."**

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Daniel A. Hess whose telephone number is (571) 272-2392. The

examiner can normally be reached on 8:00 AM - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DH

DANIEL STCYR
PRIMARY EXAMINER